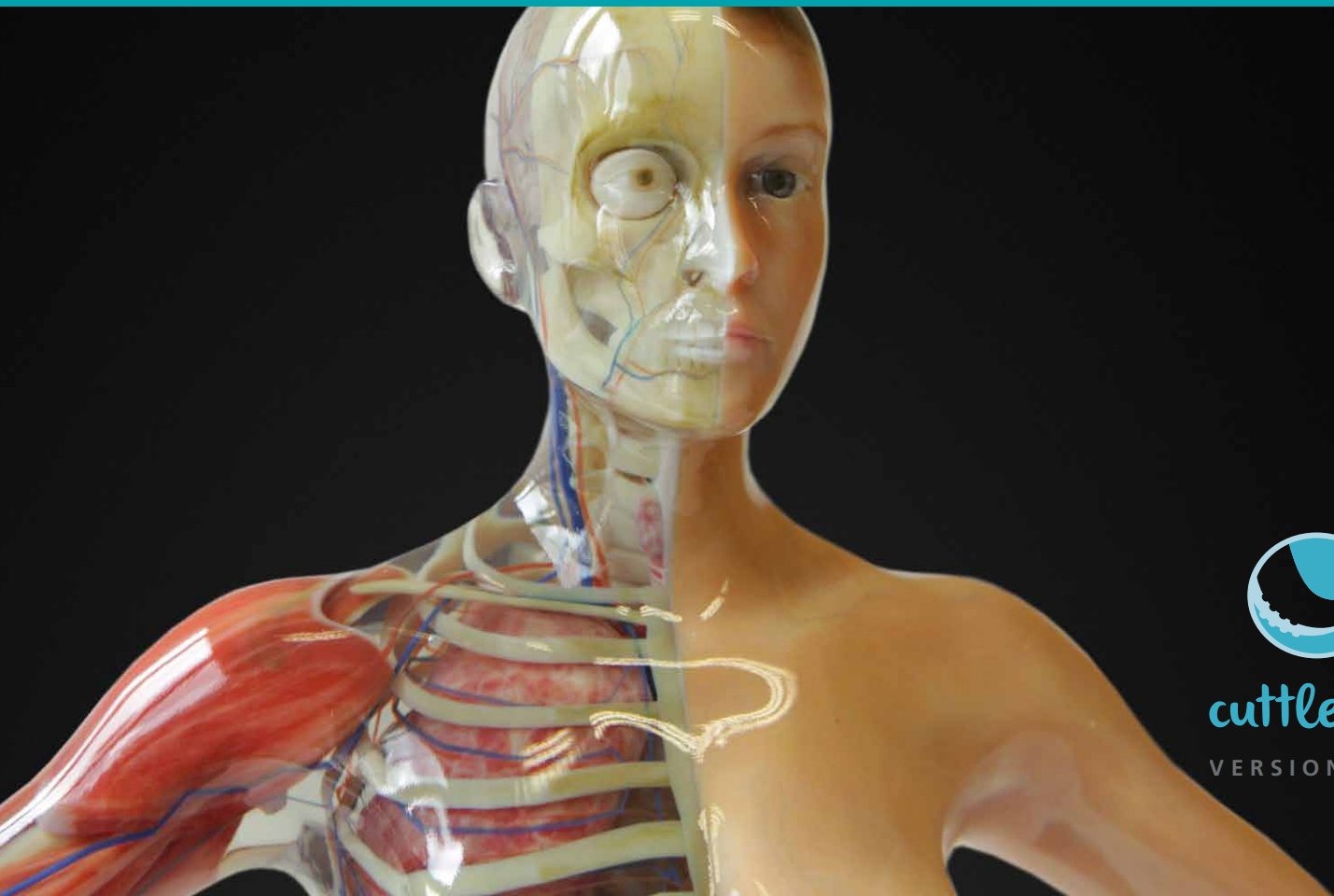
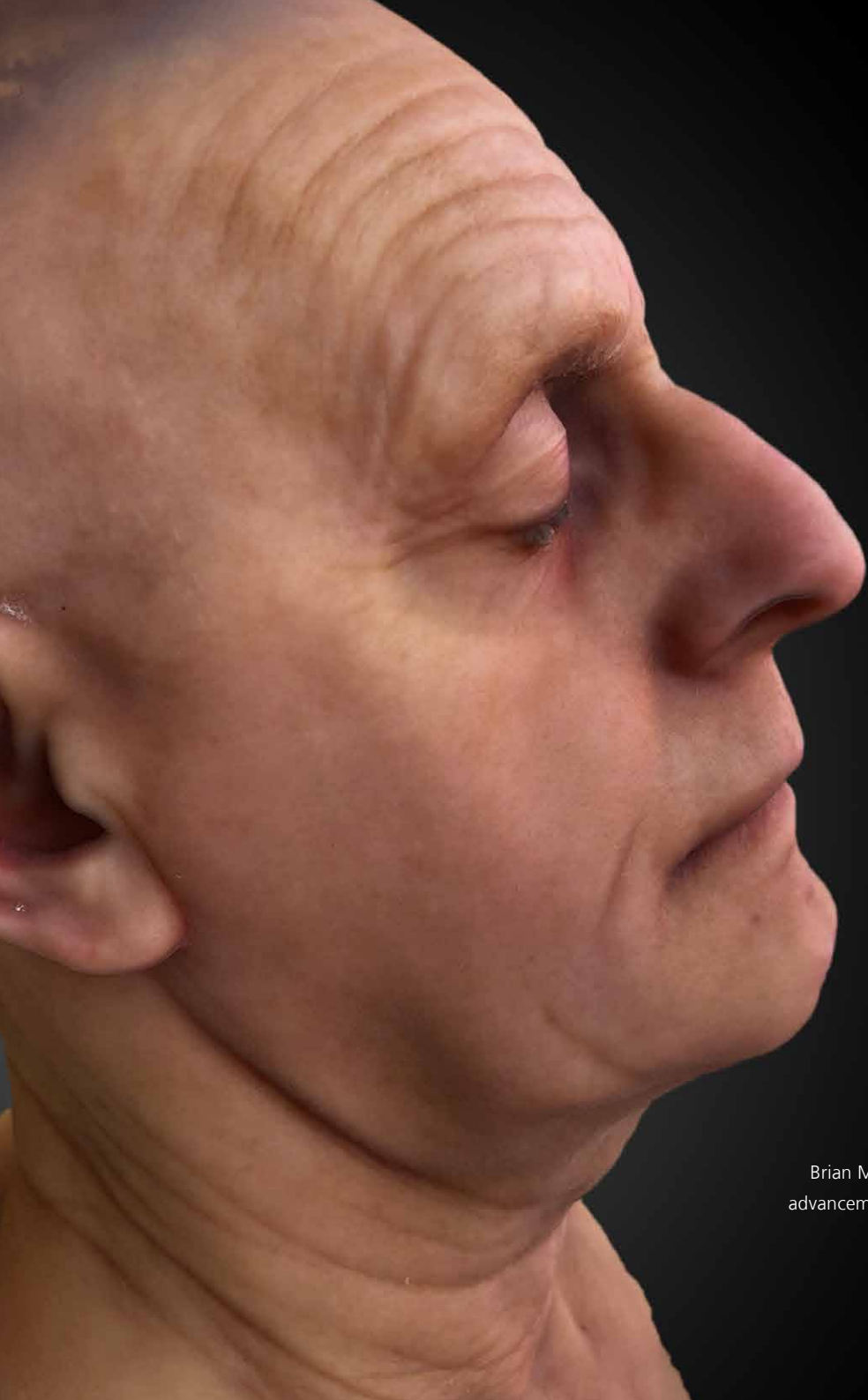


CUTTLEFISH – THE UNIVERSAL 3D PRINTER DRIVER



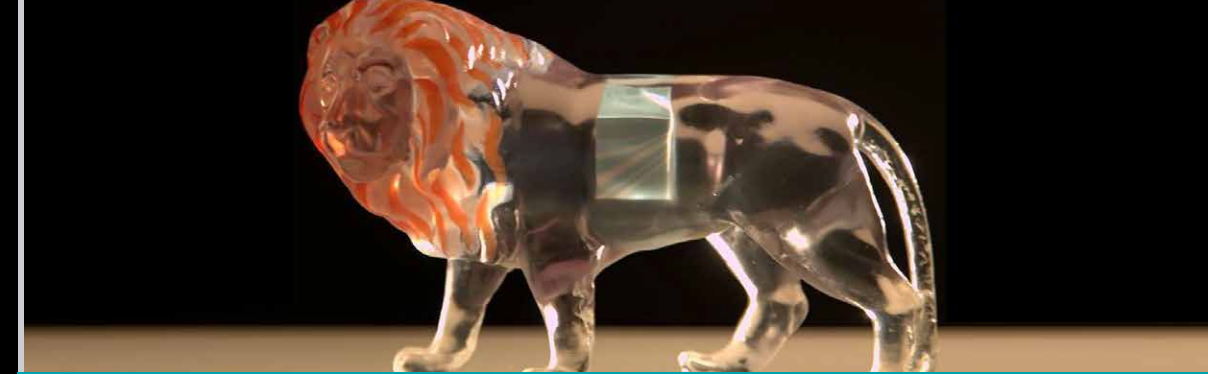
cuttlefish

VERSION 2018



**** “We have never seen such accurate and detailed color before in plastic 3D printing”***

Brian McLean, LAIKA's Director of Rapid Prototype, who was awarded a Scientific & Technology Oscar® for the advancements in 3D printing in 2016 and was nominated for an Academy Award® for Best Visual Effects in 2017



WHAT CAN YOU DO WITH CUTTLEFISH?

GET THE MOST OUT OF YOUR 3D PRINTER

Cuttlefish is a unique driver for controlling diverse 3D printers allowing high-fidelity reproduction of an object's appearance in addition to its shape and more.

Quality:

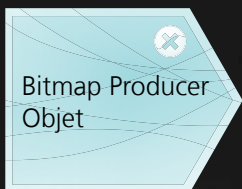
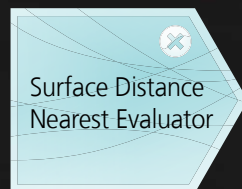
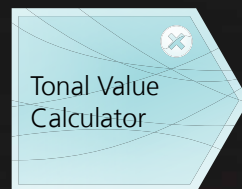
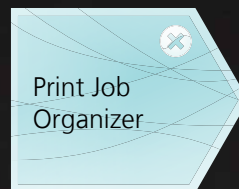
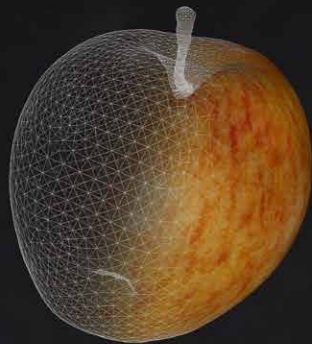
Pushing the limits of accuracy and realism in 3D printing*

Adaptability:

Can be configured to various printer specs and capabilities

Reliability:

Stable software producing consistent results



CUTTLEFISH HIGHLIGHTS

WHY CUTTLEFISH?

- Automatically process complex input models: millions of triangles, multiple texture maps, overlapping and embedded models with different color and translucency textures
- Texture enhancement
- Configurable and adjustable to customer's needs by user friendly browser-based interface
- Adaptive structure thickening (e.g. for architectural models)
- Allows web-based printing and slicing
- Starts printing in seconds using streaming architecture
- Supports ICC color management
- Accurate softproofing
- Allows batch processing
- Extendible by plugins



User Friendly

We provide a wide variety of industry tested and ready to use components allowing you to setup Cuttlefish to drive your printer in minutes via a user-friendly browser interface. Comes with preset configurations for many printers.

If desired we provide customizations to your needs.

WITHOUT TEXTURE
ENHANCEMENT



WITH TEXTURE
ENHANCEMENT

FLEXIBILITY AND EXTENDIBILITY

PLUGIN CAPABILITY

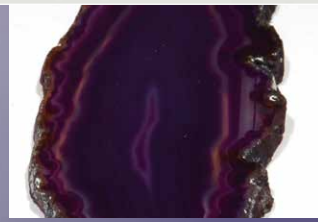
Cuttlefish is more than a static software. You can add your own plugins to extend it for other applications. The underlying voxel representation allows you to change print process parameters or material placement in multimaterial systems locally. This enables, for instance, adjusting the laser scan strategies in SLM printers for creating different porosities or microstructure, or printhead speed and nozzle temperature in FDM prints. Add your own preprocessing or custom file format.

Printer manufacturers: Protect your IP by connecting Cuttlefish directly to your printer's firmware through your own plugin.



Reproducing translucent appearance

VIOLET STONE



GREEN STONE

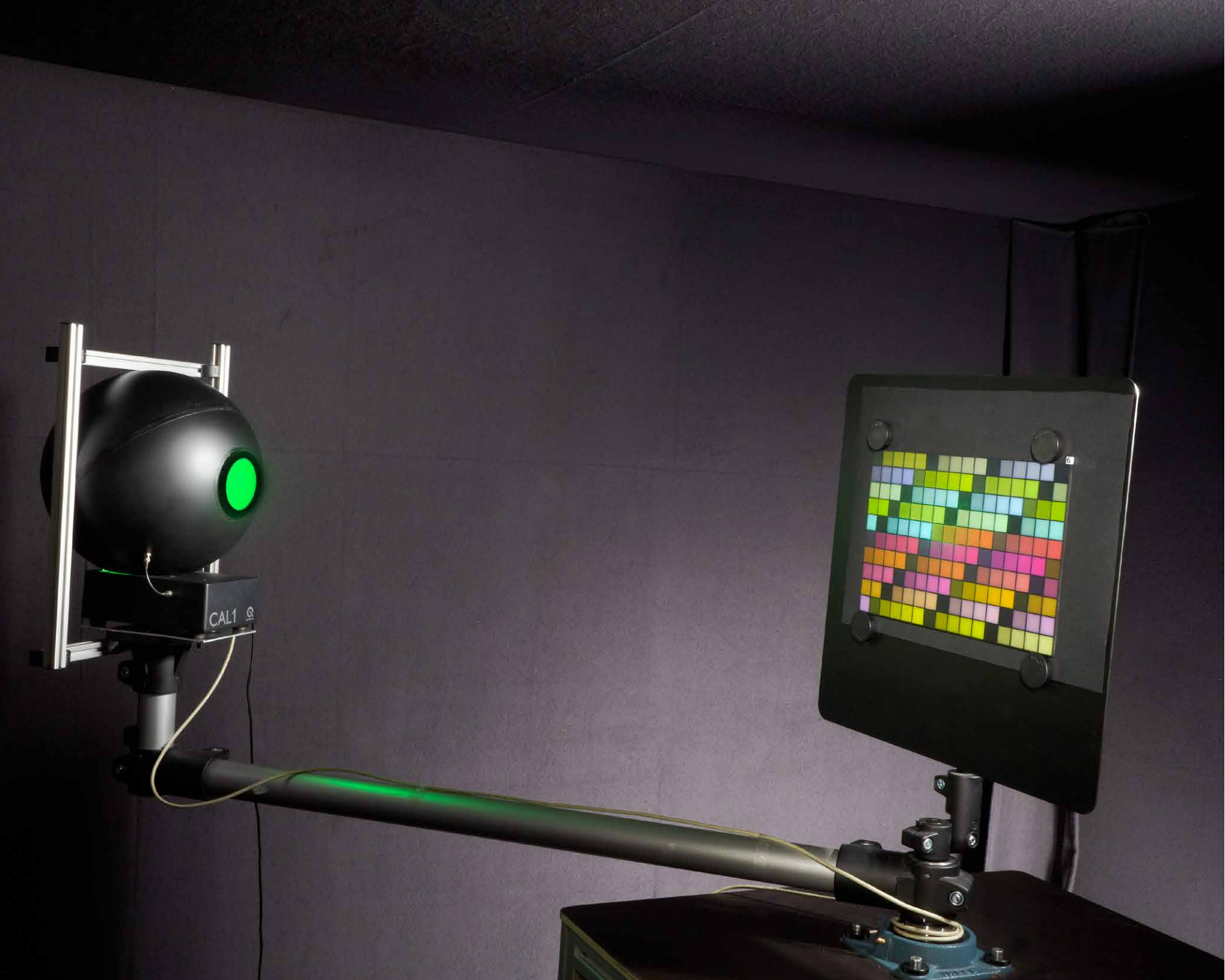


GREEN SOAP



INTERPOLATE

INTERPOLATE



OUR SERVICE / COMPETENCES

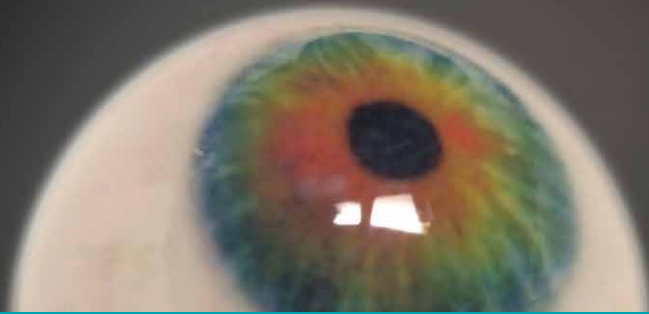
We help you adapt Cuttlefish to your 3D printer and exploit its full capabilities.

Our service

- Connecting Cuttlefish to your printer's firmware
- Include Cuttlefish into your ERP system
- Conducting optical measurements
- Creating custom ICC and material profiles
- Maximizing the color gamut of your 3D printer

Our competences

- Optical Measurements
- Psychophysics
- Color Science
- Geometry & Imaging
- Developing Algorithms
- Developing Professional Software



FEATURES

General Features:

- Supported 3D printing technologies: Polyjet, SLM, DLP, FDM (more on request)
- Output formats: Bitmaps/PNG, GCode, CLI
- Supported file formats: X3D, WRL, VRML, OBJ, PLY, OFF, STL, OSB, OSG, 3DS, BLEND
- Easily handles millions of triangles and complex, overlapping geometries
- Streaming architecture: scalability, "online" printing-while-computing
- Flexible, customizable component-based architecture
- Proven reliability: 106,000 models sliced by LAIKA for the upcoming feature film "Missing Link"

Graphical Features for Polyjet:

- Jointly calibrated color and translucency printing from RGBA textures* (supported by various 3D modeling tools and standard 3D file formats)
- ICC-compatible color management with translucency enhancement*
- ICC-based color soft-proofing
- Surface Voxel Shader: voxel-precise, programmable control of surface color and translucency

Advanced signal processing for the best quality on the market:

- Optimized texture level-of-detail for print size and resolution
- Geometry-aware texture detail enhancement
- State-of-the-art 3D halftoning*

Advanced geometry processing for stability and scalability:

- Practically no limit on input geometry: number of triangles, geometric complexity, self-intersections, overlapping objects, holes and flipped triangles
- Adaptive thickening of thin structures to ensure printability, according to printer specs, subject to design constraints (beta)

Easy-to-use suite of higher-level tools built on Cuttlefish:

- Cuttlefish::Web, a browser-based GUI to simplify component selection and parametrization
- Cuttlefish::Launch, a command-line utility to simplify component selection and parametrization for batch processing of multiple models

*patent pending

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